

Saussure's, which was described in Rev. et Mag. de Zool. (2), x. 1858, p. 261. The species recorded or known to me from Japan are:—*auraria*, Sm., = *simillima*, Sm.; *cineta*, Fab. (George Lewis); *crabroniformis*, Sm.; *ducalis*, Sm.; *flavo-fusciata*, Cam.; *japonica*, Saus.; *japonica*, Sm., non Saus.; *magnifica*, Sm., var. *latilincata*, Cam.; *micado*, Cam.; *mongolica*, André; *norwegica*, Fab.; *siberica*, André; *tridentata*, Cam.; *xanthoptera*, Cam.; or fourteen species in all. Thirteen species of *Vespa* are recorded by Bingham from British India, but to these must be added *V. germanica*, Fab., which I have seen from the Khasias. Thus the number for both regions is the same. *V. affinis*, F., and *V. bicolor*, F., probably extend into Japan.

TWO NEW JAMAICAN CULICIDÆ. 90

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THE following descriptions of two new mosquitoes are drawn up from specimens sent to the British Museum (Nat. Hist.) by Dr. Grabham, and taken by him near Kingston. The new *Culex* is very distinct, as also is the *Hemagogus*, which is so far the most beautiful Jamaican mosquito yet found. The type-specimens are in the Museum collection.

Genus CULEX, Linn.

(Syst. Nat. 1735; Theob. Mono. Culicid. i. p. 326, 1901.)

Culex tortilis, n. sp.

Head golden scaled; proboscis unbanded; thorax adorned with golden scales, and a large dark brown patch on each side in front, the back of the mesonotum also darkened; pleuræ with grey scales. Abdomen deep brown with violet reflections; the second, third, fourth and fifth segments with narrow basal pale bands; venter pale yellow scaled. Legs deep brown, unbanded; venter of femora and coxæ white. Ungues equal.

♀. Head brown, clothed with narrow-curved golden-yellow scales, a few black bristles, and ochraceous upright forked scales; proboscis and palpi deep brown; antennæ brown; basal joint testaceous; second joint very *large and swollen*, deep brown. Thorax deep brown, the middle of the mesonotum clothed with narrow-curved golden scales; on each side in front a roundish rich deep brown patch, and the posterior part of the mesonotum with darker scales than the front, being almost brown, but not so dark as the front lateral areas; scutellum with dull golden-brown scales and brown border-bristles; metanotum bright chestnut-brown; pleuræ pale brown, with spots of grey scales. Abdomen black in some lights, rich deep but dull violet in others; the first segment with dusky scales, forming two spots and pale golden hairs; the second, third, fourth and fifth segments with narrow pale yellowish basal bands, not extending quite across the

segments, the fifth sometimes very inconspicuous; basal lateral white spots most prominent on the apical segments; venter clothed with creamy yellow scales; border-bristles of the dorsum pale golden. Legs deep brown, except the coxæ and venter of the femora, which are grey to creamy yellow; femora, tibiæ, and hind metatarsi with black bristles; hind metatarsi very nearly as long as the hind tibiæ; fore and mid ungues equal, uniserrated; hind equal and simple. Wings clothed with typical brown *Culex* scales; fork-cells rather short; first submarginal cell very slightly longer, but narrower than the second posterior cell, its stem about as long as the cell, its base about level with the base of the second^o posterior cell, if anything slightly nearer the apex; stem of the second posterior cell not quite as long as the cell; posterior cross-vein very short, about twice its own length distant from the mid; a pale spot at the base of the wing; halteres testaceous. Length 4 to 4.5 mm.

Hab. Kingston, Jamaica.

Time of capture. August.

Observations.—Described from a series of females taken by Dr. Grabham. They are very distinct, small, thick-set mosquitoes, easily told by the thoracic adornment, the two dark spots on the front of the mesothorax being very characteristic; their unbanded legs at once separate them from *Culex secutor*, Theob., or *C. janitor*, Theob., and they are of much stouter build. When alive they can easily be identified by the character noticed by Dr. Grabham, of carrying their hind legs twisted right forward over their head, when settled, after the manner of *Wyeomyias*. There is some variation in the venation. Some specimens show the base of the first submarginal cell slightly nearest the apex, and the posterior cross-vein as long as the mid cross-vein, and about its own length distant from it. In others the basal abdominal banding is very faint; in one there is a *trace* of an additional basal abdominal band.

Genus HÆMAGOGUS, Williston.

(Trans. Ent. Soc. Lond., 1896, p. 271, Williston; Mono. Culicid. ii. p. 238, Theob.)

Hæmagogus equinus, n. sp.

Head metallic violet, white between the eyes in front; palpi and proboscis black; antennæ pale brown. Thorax metallic green; pleuræ snowy white. Abdomen bright metallic violet, with three prominent and one faint silvery white basal bands and white lateral spots. Legs unbanded, deep brown; femora white beneath. Wings with violet reflections, iridescent.

♀. Head clothed with flat metallic violet scales, except a patch between the eyes, which are white, and at the sides, where they are grey and black; black bristles project over the eyes, and there is a trace of a narrow pale border surrounding them; clypeus with a frosty sheen; palpi black; proboscis black, curved upwards, nearly as long as the whole body; antennæ pale brown, basal segments deep brown,

with dusky scales on the large basal and second segments. Thorax black, covered with large flat apple-green metallic scales, rounded at their apices and irregularly disposed over the mesonotum; a patch of almost silvery white ones just in front of the roots of the wings, with also long dense black bristles; scutellum with flat green and blue scales and black border-bristles; prothoracic lobes and pleuræ silvery white. Abdomen rich metallic violet; the first segment with an oblique white line on each side; the second and third unadorned; the fourth with a few large basal white scales; the fifth, sixth and seventh segments with basal white bands; border-bristles short, black; each segment with a large basal silvery white lateral spot; venter pure silvery white; each segment with a median black spot, the last two segments projecting downwards, and giving the appearance of two ventral black tufts. Legs unbanded, deep brown, with metallic violet reflections, and a pale knee spot to the mid and hind pair; femora white beneath; unguis small, equal, and simple. Wings faintly tinged with brown, metallic violet and iridescent in certain lights; first submarginal cell slightly longer and narrower than the second posterior cell, its base nearer the apex of the wing, its stem longer than the cell; stem of the second posterior longer than the cell; posterior cross-vein rather more than its own length distant from the mid cross-vein; halteres with ochraceous stem and fuscous knob. Length, 4-5 mm.

Hab. Kingston, Jamaica, W.I.

Time of capture. August (24th).

Observations.—Described from a single perfect specimen. Dr. Graham took this brilliant species feeding on a horse. He took two specimens, and mentions that "it is by far the most brilliant species found here, and evidently uncommon." It was taken at 7 p.m. at the lower end of Old Pound Road. It resembles *H. cyaneus*, Fabricius, but the venation is different, the first submarginal cell being smaller, and having its base nearer the apex of the wing, whilst in *cyaneus* it is nearer the base; moreover, the abdomen is adorned. It also approaches *H. albomaculatus*, Theob., but the abdomen has not the curious chaetotactic characters seen in that species (*vide* fig. 171, p. 309, Mono. Culicid., vol. iii.) and is banded, not having the two median spots seen in *albomaculatus*.

The three species of *Hemagogus* tabulate as follows:—

- A. Abdomen unadorned. Base of first submarginal cell nearer base of wing than the base of the second posterior cell . . . *cyaneus*, Fab. = *splendens*, Willis.
- AA. Abdomen adorned.
 - a. Base of first submarginal cell nearer apex of wing than that of posterior cell.
 - b. With prominent chætæ and two median basal white spots *albomaculatus*, Theob.
 - bb. No prominent chætæ, but basal white bands and a white oblique stripe on each side of first segment *equinus*, Theob.